Application No.: 10/727,518   Docket No.: 21581-00260-US1

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application. Please cancel claim 10 without prejudice to its reentry at some later date.

Listing of Claims:

1-8.   (Cancelled)

9.   (Currently Amended) A process for producing an aliphatic alcohol alkylene oxide adduct,

which comprises addition reaction of an aliphatic alcohol alkylene oxide adduct (e), obtainable by adding 1-2.5 moles on the average of an alkylene oxide (b2) containing at least two carbon atoms to an aliphatic alcohol (a2) containing 1-24 carbon atoms in the presence of a catalyst (d) providing an adduct having a distribution constant c' of 1.0 or less as determined by the following equation (4'),

with an alkylene oxide (b3) containing at least two carbon atoms in the presence of an alkaline catalyst (f):

$$c'=(v' + n_0'/n_{00}' - 1)/[Ln(n_{00}'/n_0') + n_0'/n_{00}' - 1] \qquad (4')$$

wherein v' represents the average addition molar number of alkylene oxide added per 1 mole of the aliphatic alcohol (a2), Ln represents the natural logarithm, n_{00}' represents the molar number of the aliphatic alcohol (a2) used in the reaction, and n_0' represents the molar number of the aliphatic alcohol (a2) unreacted;

and wherein the catalyst (d) is at least one member selected from the group consisting of perhalogenoic acids or salts thereof, salts of sulfuric acid, salts of phosphoric acid and nitric acid or salts thereof.

10.   (Cancelled)

11.   (Currently Amended) The production process according to Claim 9 ~~10~~, wherein the catalyst (d) is a perchlorate of a divalent or trivalent metal.

12.   (Original)   The production process according to Claim 9, wherein the catalyst (d) is used in an amount of 0.001-1 part by weight per 100 parts by weight of the total of the (a2) and (b2).

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13.   (Original)   The production process according to Claim 9,

wherein (e) is one obtainable by introducing (b2) into (a2) under a pressure of -0.8-5 kgf/cm^2 at a temperature of 80-200°C followed by carrying out aging at a temperature of 80-200°C until the pressure within the reaction system reaches equilibrium.

14.   (Original)   The production process according to Claim 9,

wherein the catalyst is removed from the polymerization product, after termination of the addition-reaction of (b3), through adsorption treatment by adding an adsorbent and optionally a filter aid, followed by filtering operation.

15.   (Withdrawn- Previous Presented)   An anionic surfactant obtainable by anionization of an aliphatic alcohol alkylene oxide adduct (A'),

said (A') being directly produced by adding an alkylene oxide (b1) to an aliphatic alcohol (a1) and satisfying the following (ii'), (iii') and (iv):

(ii') having a ratio Mw/Mn of a weight-average molecular weight (Mw) to a number-average molecular weight (Mn) satisfying the following relation (2') or (3'):

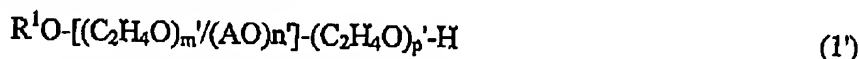$$Mw/Mn \leq 0.030 \times Ln(v") + 1.010 \quad \text{(in case of } v"<10) \quad (2')$$

$$Mw/Mn \leq -0.026 \times Ln(v") + 1.139 \quad \text{(in case of } v" \geq 10) \quad (3')$$

wherein v" represents the average of (m'+n'+p') in the following general formula (1');

(iii') having a distribution constant c", determined by the following equation (4"), of 1.0 or less, this being required only in case of v up to 12:

$$c" = (v" + n_0/n_{00} - 1)/[Ln(n_{00}/n_0) + n_0/n_{00} - 1] \quad (4")$$

wherein v" is the same in the above, n_{00} represents the molar number of the aliphatic alcohol (a1) used in the reaction, and n_0 represents the molar number of the aliphatic alcohol (a1) unreacted; and

(iv)   comprising one compound represented by the following general formula (1'), or a mixture of two or more thereof:

$$R^1O-[(C_2H_4O)_m'/(AO)_n']-(C_2H_4O)_p'-H \quad (1')$$

wherein R^1 is an aliphatic hydrocarbon group containing 8-24 carbon atoms or a cycloaliphatic hydrocarbon group containing 8-24 carbon atoms; A is an alkylene group containing at least 3 carbon atoms; m' is 0 or an integer of 1 or more, the average thereof being in the range of 0-5, n' is 0 or an integer of 1 or more, the average thereof being in the range of 0-5, p' is 0 or an

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integer of 1 or more, the average thereof being in the range of 0-10, $(m'+n'+p')$ is an integer, the average thereof being in the range of 1-20, and average of $(m'+p')/(m'+n'+p')$ is at least 0.5; and, in case of $m'\neq0$ and $n'\neq0$, $\{(C_2H_4O)_m'/(AO)_n'\}$ represents block addition or random addition.

16.   (Withdrawn)   The anionic surfactant according to Claim 15, wherein said anionization is sulfation.

17.   (Withdrawn)   The anionic surfactant according to Claim 15, wherein said anionization is phosphation.

18.   (Withdrawn)   The anionic surfactant according to Claim 15, wherein said anionization is carboxyetherification.

19.   (Withdrawn)   The anionic surfactant according to Claim 15, wherein said anionization is sulfosuccination.

20.   (Withdrawn)   A detergent composition comprising said anionic surfactant according to Claim 15.

21.   (Withdrawn)   A detergent composition comprising said anionic surfactant according to Claim 15 and an amphoteric surfactant and/or a nonionic surfactant.

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